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APPLICATION NO.	FILING DATE	FIRST-NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,472	02/05/2002	Kiyoshi Hayashi	10059-270U1 (P20277-02)	8130

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AKIN GUMP STRAUSS HAUER & FELD L.L.P.
ONE COMMERCE SQUARE
2005 MARKET STREET, SUITE 2200
PHILADELPHIA, PA 19103-7013

EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

2b3

Office Action Summary

Application No.

10/067,472

Applicant(s)

HAYASHI ET AL.

Examiner

Tracy Dove

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/255,583.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other:

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DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/255,583, filed on 2/22/99.

Claims Analysis

Claims 1 and 3 recite "a nickel hydroxide having a content of sulfate ions in a crystal of nickel hydroxide of 0.4 wt% or less", and further recite, "the sulfate ions *have been* removed from the crystal of nickel hydroxide with an alkaline solution". Thus, the claims will be interpreted as a nickel hydroxide having a content of sulfate ions in a crystal of nickel hydroxide of 0.4 wt% or less that has already be treated with the alkaline solution. Specifically, the alkaline treatment results in a nickel hydroxide having a content of sulfate ions in a crystal of nickel hydroxide of 0.4 wt% or less. See specification at page 7 and Example 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b)/103(a) as being anticipated by, and alternatively unpatentable over, Melin, US 3,657,013.

Melin teaches that precipitation processes for obtaining nickel hydroxide result in residual sulfate amounts of 0.4-0.6 percent or residual sulfate amounts of 0.1-1.2 percent. The residual sulfate content is dependent chiefly of the pH value chosen in a second precipitation step of the process for forming the nickel hydroxide. After the first precipitation process (line 55), a second precipitation process is employed during which the greater part of the anions of a metallic salt (sulfate anions) or metallic salts absorbed in the hydroxide precipitate are released without alteration of the crystal structure of the hydroxide precipitate (nickel hydroxide) (col. 1, lines 45-70). The nickel hydroxide is used for the positive electrode of an alkaline battery (col. 1, lines 7-9).

Thus the claims are anticipated.

The claims are, alternatively, unpatentable. Yano does not explicitly teach the sulfate ions are removed with an alkaline solution having a pH of 13-14. However, the courts have ruled that product-by-process limitations, in the absence of unexpected results, are obvious. Melin teaches the amount of sulfate ions present in the nickel hydroxide depends chiefly on the pH value of the second precipitation or washing step. The nickel electrode of the prior art and

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the nickel electrode of the claimed invention appear to be the same (both recite a nickel hydroxide having 0.1-0.4% of sulfate ions). See MPEP 2113.

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Claims 1-4 are rejected under 35 U.S.C. 102(e)/103(a) as being anticipated by, and alternatively unpatentable over, Kawase et al., US 5,879,835.

Kawase teaches a method of manufacturing a nickelous positive electrode active material for an alkaline battery having a formation process in which nickel hydroxide and cobalt hydroxide are formed by adding an alkali metal hydroxide to a reaction system containing nickel ions and cobalt ions (abstract). The nickelous active material can suppress the self-discharging of the battery (col. 2, lines 53-55). A solid solution of an ammine cobaltous complex containing nickel and cobalt can be prepared by 1) an expedient in which ammonium sulfate or nitrate is added into and dissolved in a mixed aqueous solution consisting of a Ni-salt and a Co-salt or 2) an expedient in which a Ni-salt and a Co-salt are dissolved in aqua ammonia of low basicity with nitrates or sulfates usable as the salts of Ni (nickel) or Co (cobalt) (col. 4, lines 54-65). Example 1 teaches nickel nitrate and cobalt nitrate were added to water to prepare a mixed aqueous solution. Then, ammonium nitrate was added to form a cobalt ammine complex. Further, sodium hydroxide (alkaline solution) was added to the solution and the pH was adjusted to 13. Thus, a solid solution consisting of cobalt hydroxide and nickel hydroxide was obtained. The solid solution was filtered, washed and dried to form the nickelous positive electrode active material (col. 5, line 49-col. 6, line 2). Note since nitrate salts are used, no sulfate ions are present in the nickelous hydroxide. The nickelous active material was pasted onto a collector material to form the positive electrode (col. 6, line 66-col. 7, line 11).

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Thus the claims are anticipated.

The claims are, alternatively, unpatentable. Kawase does not explicitly teach sulfate ions are removed with an alkaline solution having a pH of 13-14. However, the courts have ruled that product-by-process limitations, in the absence of unexpected results, are obvious. The sulfate ions are not required in the produced nickel electrode (0.4 wt% of less includes zero), thus, these process limitations are not given patentable weight. The nickel electrode of the prior art and the nickel electrode of the claimed invention appear to be the same. Yano teaches an alkaline solution having a pH of 13 was used to manufacture the nickel electrode comprising nickel hydroxide and cobalt hydroxide.

Conclusion

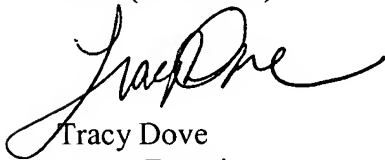
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yano 5,660,952 teaches a nickel electrode for an alkaline battery including an active material powder which comprises solid solution particles consisting essentially of nickel hydroxide, the surface of which is covered with a mixed crystal of cobalt hydroxide and the hydroxide of at least one metal selected from the group consisting of aluminum, magnesium, indium and zinc.

Ettel et al. 5,281,494 teaches producing nickel hydroxide using a catalyst. When using sulfate or chloride as the catalyst, the amount of sulfate or chloride contamination of the hydroxide product increase with increasing concentration of the sulfate or chloride catalyst in the reaction process (col. 5, lines 40-48).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached Monday-Thursday (9:00 AM-7:30 PM). My supervisor is Pat Ryan, who can be reached at (703) 308-2383. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax numbers are 703-872-9310 (after non-final) and 703-872-9311 (after final).

A handwritten signature in black ink, appearing to read "Tracy Dove", is written over the printed name.

Tracy Dove
Patent Examiner
Technology Center 1700
Art Unit 1745

November 21, 2003